



Energy Policy Update

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The Energy Policy Update electronic newsletter is published by the Arizona Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by community outreach personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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ARIZONA-RELATED

Abengoa's Solana, the US's First Large-Scale Solar Plant with Thermal Energy Storage System, Begins Commercial Operation

A game-changer in renewables in the U.S.

[Abengoa.com website, Oct. 9] Abengoa (MCE: ABG.B), the international company that applies innovative technology solutions for sustainability in the energy and environment sectors, has announced that Solana, the world's largest parabolic trough plant with a total installed capacity of 280 MW (gross) and also the first solar plant in the United States with thermal energy storage, has successfully passed commercial operation tests. This milestone marks a major accomplishment for Abengoa and the Concentrating Solar Power (CSP) industry. Solana is the first solar plant in the U.S. with a thermal energy storage system that is able to generate electricity for six hours without the concurrent use of the solar field, which is a turning point for renewable energy in this country, being a tangible demonstration that solar energy can be stored and dispatched upon demand. Solana, located near Gila Bend and about 70 miles southwest of Phoenix, Arizona, began construction in 2010 and on Monday, October 7, successfully fulfilled production forecasts required to date and testing for commercial operation. These tests included operating at the turbine's full capacity while charging the thermal storage system, continuing to produce electricity after the sun went down, and starting up the plant and producing 6 hours of electricity using only the thermal storage system. These tests successfully demonstrated the various operation modes of the plant's operation.

Arizona Oil and Gas Well Viewer Now Online

[Tucson Citizen, Oct. 7] The [Arizona Geological Survey](#) has developed an Arizona Oil & Gas Well viewer for about 1,100 wells in Arizona. The viewer is hosted at the [Arizona Oil and Gas Conservation Commission](#) site, which piggybacks on AZGS. The viewer is at <http://welldata.azogcc.az.gov/>. The viewer presents a scalable map showing location of wells within the state. Clicking on any well brings up basic information and links to various downloadable data. An example is shown in the graphic below. The AZGS says it purchased Neuralog software in 2011 to digitize Arizona well logs into LAS (log ASCII Standard) format to aid analysis for CO2

sequestration potential. The digitizing effort focused on deep wells across northeastern Arizona including wells that penetrated Precambrian basement and wells in the oil and gas fields with the highest cumulative production. The AZGS developed a user-friendly web application to make the digitized well data available online to facilitate the widest possible access and use of the data. The search and download map includes more than 1100 well folders, 2500 scanned tiff images of well logs, and the newly digitized LAS data.

Ecotality Finds \$3 Million Bid to Open Bankruptcy Auction

[Nasdaq.com, Oct. 7] Ecotality Inc. (ECTYQ), the maker of Blink electric-vehicle-charging stations, has received a \$3 million purchase offer to kick off the upcoming bankruptcy auction for its business. In court papers, officials at Ecotality, which obtained a \$100 million grant from the U.S. Department of Energy, said that interested buyers will have to beat the initial offer from a company called Tellus Power Inc. if they want to take ownership of the San Francisco company. Company officials didn't explain in documents filed in the U.S. Bankruptcy Court in Phoenix whether Tellus Power--if successful at auction--would keep the 54-worker company operating. Representatives of Tellus Power, based in Irvine, Calif., couldn't be reached using the contact information listed in court papers. An Irvine, Calif.-based company called Tellus Power, which couldn't be confirmed as Ecotality's lead bidder, said in a recent job posting that it was the U.S. subsidiary of Tusai Holdings, a renewable-energy product manufacturer based on Hong Kong. The company's auction is scheduled for Tuesday, though some of the company's creditors have asked Judge Randolph Haines to push back the date. A delay could give challengers more time to evaluate Tellus Power's bid, which was unveiled late Saturday, attorneys for the company's unsecured creditors committee said in court papers.

Incentive Program Enables Hundreds of Schools to Go Solar

[Az Capitol Times, Oct. 10] As students cavort around Sunnyslope Elementary School's playground, a shade structure high above the slides and monkey bars helps harness the sun's power. Since December 2012, when 1,416 solar panels went into use over the playground and parking lot as well as the roof, the system has provided enough power in three months to meet all of this school's energy needs, said Sue Pierce, the Washington Elementary School District's director of facility planning and energy. "To be able to power the school during the school year with all solar was quite an accomplishment," she said. The 411-kilowatt system came courtesy of Arizona Public Service Co.'s Renewable Energy Incentive program, which has provided solar to more than 300 schools in 70 districts. Paid for by APS incentives, the systems are installed and owned by third-party companies. Participating schools and districts must commit to buying back electricity generated by their systems at a reduced rate. The program, aimed at reducing the costs of installing solar systems in homes and businesses, is available to all APS customers, said Rex Stepp, the utility's leader of renewable programs. Through the Schools and Government Program, Arizona schools have received more than \$200 million in solar incentives to produce more than 100 megawatts of solar energy, he added.

Supervisors Nix Renewable Energy Incentive Districts

[Yuma Sun, Oct. 9] Noting that there's no longer a demand for large-scale solar projects, the Yuma County Board of Supervisors has nixed the proposed Renewable Energy Incentive District (REID) project. Although not wanting formal districts, the supervisors still asked that maps be drawn designating areas considered suitable for such projects. The goal of the project had been to identify areas in the county where solar development could be encouraged to minimize impact on the community. Officials had hoped that offering incentives, such as not having to seek a special use permit, would move developers to build projects in the districts.

TEP Hails Behavior Change as Untapped Energy-Efficiency Resource

[Fierce Energy, Oct. 7] Although Tucson Electric Power's (TEP) Power Partners pilot

project is not yet complete, preliminary findings have shown increased customer satisfaction and consumer engagement, as well as improved energy efficiency as a result of the program's personalized energy-efficiency suggestions, goal setting and performance tracking tools, and expert advice. The energy-efficiency pilot program, which is scheduled to conclude in November 2013, was designed to empower participants with near real-time energy data to better manage their home energy use. Energy consumption data is transmitted from customer meters every 15 minutes or less and analyzed using a behavioral science engine, sophisticated analytics and building models. Since the beginning of the program in August 2012, 94 percent of respondents report having experienced high value in tracking and monitoring their energy use and the resulting recommendations for energy saving actions to reduce energy use specific to the customer's individual usage. Further, 77 percent of participants have taken some action, whether behavioral or some form of investment. For example, 53 percent of users have made low-cost investments like replacing light bulbs or having their air conditioning unit serviced. The program is funded through a Department of Energy Smart Grid Data Access Award to encourage utilities, local governments and communities to create programs that empower consumers to better manage their electricity use through improved access to information on how energy is being used in their homes.

Energy Department Awards UA-Led Team \$8M to Research Algae Biofuel

The UA is the lead institution for the Regional Algal Feedstock Testbed, or RAFT, partnership, which was recently awarded \$8 million over four years by the Department of Energy to research how algae can be grown year-round outdoors in open ponds in different climates.

[UA News, Oct. 2] Can algae farming really supplant oil and gas drilling over time? That's the big question the University of Arizona's Kimberly Ogden, **chemical and environmental engineering** professor, has been asking of simple algae, the green stuff with the right stuff to potentially fuel the future. Ogden is not alone in the quest to mass-produce a bio-oil to reduce dependence on petroleum and its many environmentally unfriendly byproducts. The challenge is to find a substance capable of becoming fuel for transportation, feed for animals, fertilizer and high-value products such as bioplastics or pharmaceuticals. Ogden is focused on determining the efficacy of one source in particular: algae. The UA is the lead institution for the Regional Algal Feedstock Testbed, or RAFT, partnership, which was recently awarded \$8 million over four years by the Department of Energy to research how algae can be grown year-round outdoors in open ponds in different climates. In addition, other researchers and companies will collaborate with the research team to develop harvesting and conversion processes to produce biofuels and bioproducts.

German Firm Inaugurates Solar Arrays For TEP

[Arizona Daily Star, Oct. 15] German energy giant dedicated its first solar-energy installations in the U.S. on Monday under sunny skies in Tucson. The 10-megawatt (AC) Valencia Solar photovoltaic project was built to serve Tucson Electric Power Co. by E.On Climate & Renewables, part of one of Europe's biggest investor-owned utilities. On Monday, officials of TEP and E.On dedicated the array at East Valencia and South Craycroft roads, as well as a 5-MW installation that has been online at the University of Arizona Science and Technology Park on South Rita Road since the end of 2012. The Tucson installations are the first installations in a solar push in North America by E.On, which has until now focused on wind-energy installations in the U.S., said Christophe Jurczak, CEO of E.On's Global Solar business.

Website Attracts Clients to SRP Service Area

[Fierce Energy, Oct. 8] Salt River Project (SRP) has developed a new website in order to attract large commercial and industrial clients to its service territory and, in the process expand job opportunities in the area. As a major energy provider, SRP is a key stakeholder when it comes to economic development initiatives in the region whose goal is to support the infrastructure that enables such development. The

economic development website, PowerToGrowPHX.com, will assist SRP's economic development partners in their efforts to attract those large clients to Greater Phoenix by providing information about SRP's areas of expertise. "This includes data about power rates and reliability, the availability of water resources and the availability of SRP's dark-fiber network, the largest in Arizona -- all conveyed in a language and layout that speak to site selectors and corporate executives," said Caryn Sanchez, a senior planning analyst in SRP's Forecasting Research & Economic Development group.

ALTERNATIVE ENERGY AND EFFICIENCY

Cleaner Than Coal? Wood Power Makes a Comeback

Converting from power plants from coal- to wood-fired may not deliver environmental benefits as advertised

[Scientific American, Oct. 10] In the midst of black spruce and jack pine stands in northwestern Ontario's Crown forests, a global trend has come home to roost. Atikokan Generating Station ceased burning coal last year to prepare for its new fuel: locally sourced wood pellets. Canada already sends wood pellets abroad for power generation, but it is now leveraging the resource on a large scale in its own backyard. Atikokan will be the largest commercial power plant in North America to convert from coal to biomass, a trend that has caught on worldwide, especially in Europe. The retrofit is part of Ontario's plan to be the first jurisdiction in North America to shut down its coal fleet. In Europe the drive to retrofit coal-fired power plants to biomass comes from the European Union Renewable Energy Directive, which calls for 20 percent of energy to come from renewables, including biomass, by 2020. Much of Europe's wood pellets are being imported from private forests in the southeastern U.S. as well other parts of North America.

Google the Power Player Invests in Another Giant Solar Farm

[Forbes, Oct. 10] If you live in California, the power that makes it possible for you run [Google Google](#) searches on your laptop and phone could very well come from the search giant as well. Google, which is part owner in several clean power projects that sell electricity to California's utilities, said Thursday it has agreed to invest \$103 million in another solar power plant in California that will send electricity to San Diego Gas & Electric when completed in 2014. The 265.7-megawatt project, called Mount Signal Solar, is under construction in Imperial County, located in the southeastern part of the state. Google is going in on the project with Silver Ridge Power, the former [AES AES](#) Solar. The two companies declined to disclose their ownership stakes in the project.

Mexico Solar Investing

Mexico Opens to Energy Investment

[Energy and Capital, Oct. 7] Solar power is another reason to take a serious look at Mexico's energy economy. If you follow energy news, you've likely heard that Mexico is on the cusp of opening its oil economy to foreign investment for the first time since 1938. But solar energy is also making headway in Mexico as leaders plan to further diversify the nation's energy composition. Wind and solar only comprise 1.5 percent of Mexico's energy needs, but the government is planning to generate at least 35 percent of its power from clean sources by 2026. However, there are drawbacks. Mexico derives most of its clean energy from hydroelectricity. And solar is not very cost competitive in many parts of Mexico, since energy prices are 12 cents per kilowatt hour. Furthermore, Mexico does not subsidize its solar sector, which decreases the incentive for more companies to start projects. Still, the nation is moving forward. Local companies have already obtained permits for 215 megawatts of solar plant construction around northern Mexico -- where the highest concentration of solar projects are located -- which would be enough to power 40,000 homes. The Mexican government projects an increase of 2,170 MW worth of solar power by the end of this decade.

Solar Decathlon Showcases 19 Hi-Tech Homes of the Future

What will the home of the future look like? Cutting-edge technologies are on display this week in 19 full-sized models at the Solar Decathlon, a biannual college competition.

[USA Today, Oct. 7] A charging station that powers a pedelec (electric bike), a walkway that heats your home, and a bathroom that doubles as a shelter in storms. Oh, and don't forget the edible walls and move-able rooms. These cutting-edge ideas for the home of the future are now on display in 19 full-sized models at this year's Solar Decathlon in Irvine, Calif. The biennial competition, sponsored by the U.S. Department of Energy (DOE), challenges college students worldwide to build an affordable, attractive and efficient solar-powered house.

Wind Turbine Blade Manufacturer Expands Capacity in US

[Power Engineering, Oct. 7] LM Wind Power, a supplier of blades for wind turbines, announced Monday it has doubled its workforce in the U.S. in a less than six month period, increasing from 350 in April to a little more than 700 in August. The company stated it plans to continue expanding into 2014 to reach a workforce of around 1,200. The additional staff will work in the company's factories in Grand Forks, N.D. and Little Rock, Ark. and will serve the demand in the U.S. market. The company stated it is seeing increased volumes from key customers following the extension of the Production Tax Credit. LM Wind Power operates 14 blade manufacturing plants across the Americas, Europe and Asia and stated the expansion at its U.S. facilities will make them among the company's largest.

ENERGY/GENERAL

EIA: Four U.S. Coal Companies Supplied Over Half of 2011 U.S. Coal

[PowerMag.com, Oct. 7] In the past two years, roughly half of U.S. coal production was attributable to the top four coal producers, the result, according to the U.S. Energy Information Administration (EIA), of changes in regional production as well as decades-long trends that have seen the several mergers and acquisitions. Peabody Energy Corp., Arch Coal Inc., Alpha Natural Resources LLC, and Cloud Peak Energy together supplied 575 million tons, or 52% of total U.S. coal production, in 2011. More than 500 other companies supplied the remaining 48%. By comparison, the fifth-largest coal producer in 2012, Consol Energy Co., contributed 34 million tons, or 35% less than fourth-place Cloud Peak Energy. The Oct. 2 [announcement](#), which includes several charts, graphs, and maps, shows that Peabody Coal Co. and Arch Coal Inc. have been in the top four since at least 2000, and Peabody—which owns mines in both the western and midwestern basins, as well as outside the U.S.—has been number one for decades. In the past three years tracked by the EIA, Cloud Peak Energy and Alpha Natural Resources LLC have held third and fourth positions. The trend toward a rising share being controlled by fewer companies “began in the 1990s with the continued expansion of mines in the Powder River Basin in the western United States and with the divestment of coal properties by oil and gas companies. In 1990 and 1995, the top four accounted for 22% and 35%, respectively. By 2002, when total coal production levels were nearly identical to production in 2011, the top four coal producers accounted for 40% of the total U.S. production and increased to over 50% in 2011 and 2012, based on preliminary 2012 data.” In 2011, combined production by the top four companies represented 27% of Appalachian production, 18% of interior production, and 77% of western production.

ESCO Market to Reach \$8.3 Billion in 2020

[Energy Manager Today, Oct. 8] The US energy service company market will grow from \$4.9 billion in 2013 to almost \$8.3 billion in 2020, representing a compound annual growth rate of 7.7 percent, according to a study by [Navigant Research](#). Although the long term outlook for the market is positive, it will not show strong year-on-year growth until 2014, according to [The US Energy Service Company Market](#). The

market peaked at \$5.6 billion in 2011, supported in large part by the short-term effects of the American Recovery and Reinvestment Act. However, the exhaustion of those resources contributed to the sharp decline in energy service company revenue in 2012, when total revenue fell to \$4.8 billion, a figure that is below 2010 levels. Furthermore, customers have grown concerned about the impact of energy performance contracts on their financial positions, and many of the resources, including policy measures, that drove growth prior to 2011 have been exhausted. As a result, the energy service company market activity slowed considerably, the report says. However, the federal sector, which has long been an important part of the energy service company market, will undergo significant growth and be a key player in the market's future growth, Navigant says. This will be thanks to a number of supportive measures including the 2011 [Better Buildings initiative](#), which aims to provide \$2 billion of energy performance contracts in the federal sector by the end of 2013. Other sectors, such as commercial and industrial firms and public housing, will also start to expand once broader economic conditions improve, according to the report. The municipalities, universities, schools, and hospitals market will remain a large part of the market overall, but will slip in market share as the federal and commercial and industrial sectors post strong growth in 2014 and beyond, the report says.

Energy Prices Shutter Ormet Aluminum Plant

[Energy Manager Today, Oct. 7] Electricity rate hikes [have forced aluminum producer Ormet Corp. to announce the closure](#) of one of its plants in Hannibal, Ohio, reports Forbes. In February, Ormet filed for bankruptcy protection citing "exceedingly high and uncontrollable power costs." Low metal prices have also been a contributing factor in the company's problems: Prices for aluminum on the London Metal Exchange are now below the cost of production for many producers, according to the news service. But production costs have been pushed up exponentially by rising electricity rates and the factory – whose peak electricity demand is 500 MW, similar to that of a city the size of Pittsburgh – is currently operating at a loss, Forbes reports. In 2007, the average price paid for electricity by aluminum smelters worldwide was \$0.02 per kWh, according to World Bureau of Metal Statistics. By contrast, 2007 saw industrial electricity customers in Ohio pay an average of \$0.09 kWh, according to Ohio's Utility Rate Survey, the news service reports.

Incentives, Cheaper Fuel To Drive Sales of Natural Gas Vehicles

[Denver Business Journal, Oct. 10] The sale of natural gas-fueled vehicles around the world is expected to grow to more than 3.3 million units a year by 2020, according to a report from Boulder's [Navigant Research](#). That's up from a 2013 sales forecast of about 2.2 million natural gas vehicles, according to the report, titled "Market Data: Natural Gas Vehicles" and available [here](#). The research company said Thursday that a "significant number" of the vehicles, which run on natural gas rather than gasoline or diesel, are in use today in a handful of countries, including Pakistan, India and China. Sales of natural gas vehicles are growing for several reasons, said [Dave Hurst](#), principal research analyst with Navigant Research. Auto manufacturers are facing stricter fuel economy and emissions requirements — and adding natural gas-fueled vehicles to their produce lineup can help companies meet mandated targets, Hurst said. Governments also are offering incentives to vehicle buyers.

INDUSTRIES AND TECHNOLOGIES

Bypassing the Power Grid

[New York Times, Oct. 8] LONDON — For nearly a century, wealthy countries have relied on just one model of power distribution: sending electricity over huge transmission grids from big generating plants to customers in their homes, offices and factories. That may be starting to change. Renewable-energy technologies like solar and wind power, which in many countries have begun to shake up the mix of energy sources, are now also challenging the traditional distribution system. Advocates of a

decentralized approach, known as distributed generation or distributed energy, envision a day when grids will no longer be one-way systems. Thousands of small generators, including rooftop solar panels and facilities that extract energy from garbage or sewage, could feed into the system, replacing or complementing big coal, nuclear or natural gas plants, they say. "It's a real paradigm shift," said John Farrell, energy expert at the Institute for Local Self-Reliance, a research and advocacy group based in Washington and Minneapolis. "It's not only a shift in the physical generation of power, but also the power over the system in terms of who is in control of it and who can benefit from it." Some energy experts say a less centralized system would be better suited to the diverse mix of energy sources that is likely to be needed to reduce climate-warming carbon emissions. It could also be less vulnerable to hits from stormy weather, demand overload and other difficulties that have sometimes knocked out traditional systems.

Cleaner Long-Haul Engines Guzzle Diesel or Natural Gas

Companies are developing powerful engines that can run on natural gas together with diesel.

[MIT Tech Review, Oct. 8] Natural gas is cheaper and cleaner than diesel, but uncertainty about future prices make shipping companies reluctant to switch. Technology that allows diesel engines to instead run primarily on natural gas could provide a economical way for railroads and shipping companies to shift their vast transportation systems over to natural gas. Such a shift could lower greenhouse gas emissions, since natural gas when burned emits 15 to 20 percent less carbon dioxide than diesel. It could also save shippers money and lower the cost of shipped goods, since the natural gas boom in the United States has made natural gas far cheaper than diesel (see "[Natural Gas Changes the Energy Map](#)"). "The economics are very powerful," says [Mark Little](#), director of GE Global Research. "Diesel fuel is somewhere on the order of 10 times more expensive than natural gas, per unit of energy. There's switching going on all over the place."

US Leads in Carbon Capture Projects Worldwide

[Environmental Leader, Oct. 10] North America is the global leader in developing and deploying [carbon capture](#) and storage (CCS) and carbon capture utilization and storage (CCUS), with seven of the world's 12 operational large-scale integrated projects located in the US and one in Canada, according to a study by the Global CCS Institute. These 12 projects prevent the release of 25 million metric tons a year of greenhouse gases. An additional eight projects under construction will increase the total to 38 million metric tons a year by 2016, the report says. But despite the North American projects, the number of large-scale integrated CCS projects around the world has dropped from 75 last year to 65 this year; five have been cancelled, one downscaled and seven put on hold, according to [The Global Status of CCS: 2013](#). CEO Brad Page released the report at the Global CCS Institute's annual international members meeting in Seoul, South Korea yesterday, and called for a renewed focus on developing carbon capture technologies.

LEGISLATION AND REGULATION

A New Kind of Tax for Funding Transportation Improvements?

[Forbes, Oct. 7] For years, advocates of fixing the nation's crumbling transportation system have called for an increase in the federal gasoline tax. Last raised in 1993 to 18.4 cents a gallon, it has been devalued by decades of inflation, and is now considered inadequate to pay for much-needed improvements to roads and bridges. But political opposition and anti-tax fervor have kept the gas tax at its current level for the past 20 years. Now Sen. Barbara Boxer (D-Calif.) has stepped forward with a suggestion for doing away with the gas tax and replacing it with a "sales fee." She appears to be talking about a wholesale sales tax that would be assessed at the refinery level instead of at the pump. A percentage-based, ad valorem tax on gasoline is not a new idea, but it appears to be the first time that a legislator of Boxer's stature

has raised it. She chairs the Senate Environment and Public Works Committee, which oversees federal highway spending. Some might claim that the idea merely shifts a tax from one place to another, but it could kickstart a long-dormant issue. Joshua L. Schank, president and chief executive officer of the Eno Center for Transportation, welcomed the debate. "Any idea has to start somewhere," he said in a recent article, "and this is a very good place to start." There are pros and cons to a wholesale ad valorem tax. On the plus side, it would track with inflation, rising in line with the price of gasoline. It takes an act of Congress to increase the current per-gallon tax on gas, which loses its efficacy with each passing year. On the other hand, an ad valorem tax would be subject to the whims of global oil prices. It could rise to a point where consumers were being seriously gouged. Or it could fall, eroding its ability to keep pace with the investment needs of the nation's transportation infrastructure. The already inadequate Highway Trust Fund would be further deprived. A tax of that sort, therefore, would likely have to be constrained at both ends. An ad valorem tax would also make it more difficult for consumers to understand just what they're paying in fuel taxes. As Schank pointed out, "it's not even that visible now." Few Americans know the current level of federal and state gas taxes. All they see is the total price at the pump. As a result, they don't tie their driving behavior to the amount of taxation, which might otherwise be the case with a so-called "user fee." Something needs to be done. Gasoline and diesel fuels raise about 85% of the money spent on transportation improvements. Because of soaring construction costs and the failure of Congress to raise the gas tax, the Highway Trust Fund now stands on the verge of bankruptcy.

EPA May Reduce Ethanol Blending Volumes for 2014

[Reuters, Oct. 10] NEW – Federal environmental regulators are expected to significantly reduce their biofuel blending mandates for next year, marking a historic retreat from an ambitious 2007 law, according to industry and trade sources. The U.S. Environmental Protection Agency (EPA) is considering a proposal that would set next year's target for use of renewable fuels at 15.21 billion gallons, less than the 18.15-billion gallon 2014 target established in the law, according to the sources, who said the new figures have circulated in Washington policy circles over the past week. At 15.21 billion gallons, the proposal would leave room only for some 13 billion gallons of corn-based ethanol to be blended into the nation's gasoline supply - down from 13.8 billion this year and 14.4 billion required by law for 2014. Speculation and media reports about the potential reduction in the blending levels ripped through financial markets on Thursday, spurring a major rally in the shares of independent refiners who have been paying hundreds of millions of dollars to buy ethanol credits to cover their blending obligations. Refiner PBF Energy surged by 12 percent, Valero Energy rose 5 percent while corn futures in Chicago tumbled more than 1 percent on the prospect of reduced demand for corn-based ethanol. Ethanol credits known as Renewable Identification Numbers slipped to 40 cents. The proposal, if ultimately approved, would mark a significant victory for U.S. oil companies, who have been lobbying regulators and Congress to cut biofuel blending mandates that had been eating into their market share. It would also mark a significant blow to the U.S. corn ethanol industry, which has been urging regulators to stand pat at the ambitious blending targets required under the law.

New EPA Proposal for Cutting Emissions Draws Immediate Reactions

[Electric Light & Power, Oct. 9] Industry groups already are responding to the rollout of the Environmental Protection Agency's (EPA's) draft rule to regulate the greenhouse gas emissions of future power plants. Under the proposed new source performance standards, large natural gas-fired turbines would need to emit less than 1,000 pounds of carbon dioxide per megawatt-hour and new small natural gas-fired turbines would need to emit less than 1,100 pounds of carbon dioxide per megawatt-hour. New coal-fired units would need to emit less than 1,100 pounds of carbon dioxide per megawatt-hour or, to provide plants the flexibility and time to optimize technologies, between 1,000 and 1,050 pounds of carbon dioxide per megawatt-hour on average over 84 months of operation. The American Public Power Association (APPA) said the EPA's

mandate to use carbon capture and storage is "unrealistic" and out of line with what the clean air act requires. "The administration continues to base its belief in the viability of CCS by citing two demonstration projects, the plant Ratcliffe in Kemper County, Miss., and the Saskpower plant in Canada, that are in the process of attempting to implement CCS. Though both projects are admirable for attempting to advance the technology, neither of them has demonstrated that the technology is commercially viable," according to a statement from the APPA.

WESTERN POWER

Battery-Stored Solar Power Sparks Backlash from Utilities

[Bloomberg, Oct. 8] California's three biggest utilities are sparring with their own customers about systems that store energy from the sun, opening another front in the battle that's redefining the mission of electricity generators. Edison International, PG&E Corp. and Sempra Energy (SRE) said they're putting up hurdles to some battery backups wired to solar panels because they can't be certain the power flowing back to the grid from the units is actually clean energy. The dispute threatens the state's \$2 billion rooftop solar industry and indicates the depth of utilities' concerns about consumers producing their own power. People with rooftop panels are already buying less electricity, and adding batteries takes them closer to the day they won't need to buy from the local grid at all. "The utilities clearly see rooftop solar as the next threat," Peters said from his office in Sunnyvale, California. "They're trying to limit the growth." California is the largest of the [43 states](#) encouraging renewables by requiring utilities to buy electricity from consumer solar installations, typically at the same price that customers pay for power from the grid. The policy, known as net metering, offers a way for households to reduce their bills. It underpinned a 78 percent surge in the state's residential installations in the second quarter from a year earlier, according to the Solar Energy Industries Association. California is the largest of the [43 states](#) encouraging renewables by requiring utilities to buy electricity from consumer solar installations, typically at the same price that customers pay for power from the grid. The policy, known as [net metering](#), offers a way for households to reduce their bills. It underpinned a 78 percent surge in the state's residential installations in the second quarter from a year earlier, according to the Solar Energy Industries Association.

California Nuclear Energy Received \$8.2B in Federal Subsidies

[Electric Light & Power, Oct. 9] DBL Investors, a double bottom line venture capital firm, announced a report revealing that the California nuclear industry has received \$8.21 billion in federal subsidies during the past 50 years. The report, "Ask Saint Onofrio: Finding What Has Been Lost in A Tale of Two Energy Sources," compares federal subsidies for nuclear energy to those provided for distributed solar energy. Nuclear energy has received four times more federal support than distributed solar over a period six times as long. Solar is beginning to constitute a significant portion of installed capacity in California, although it has received less support than nuclear did in its earliest years. The closure of the San Onofre Nuclear Generating Station (SONGS) has reduced California's in-state nuclear generation by nearly 50 percent.

Trade Partnership Could Bring NM 4,500 Jobs, Advocates Say


[Albuquerque Business First, Oct. 10] New Mexico would gain 4,500 jobs and boost its exports by \$163 million a year if the U.S. signs a trade agreement with the European Union, according to a report by advocates of the agreement. Those new jobs and increased exports could be realized if the U.S. signs the Transatlantic Trade and Investment Partnership, said the study by the British government, the Bertelsmann Foundation and The Atlantic Council of the United States. The partnership would create the world's largest free trade and investment zone, and New Mexico would see increased exports of metals and metal products, motor vehicles, electrical machinery and chemicals, said the study, which examined the partnership's potential impact on the 50 states. Negotiations on the partnership began in July, the report said.


Topaz Solar Farms Pass 5 Million Module Milestone


[PV Tech, Oct. 10] Another major milestone has been reached in the 550MW Topaz Solar Farms construction with a total of five million, First Solar-made CdTe thin-film modules having been installed. In total, approximately eight million modules will have been installed when the project is completed in early 2015. The Topaz project is owned by MidAmerican Solar and is being constructed by First Solar.


ARIZONA STATE INCENTIVES/POLICIES


ARIZONA COMMERCE AUTHORITY (ACA)


 **Angel Investment Tax Credit Program** - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here. [LEARN MORE](#)


 **Arizona Innovation Accelerator Fund** - The Arizona Innovation Accelerator Fund Program is an \$18.2 million loan participation program funded through the U.S. Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona. [LEARN MORE](#)


 **Arizona Innovation Challenge** - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award \$1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from \$100,000 to \$250,000). [LEARN MORE](#)

 **AZ Fast Grant** - Enables Arizona-based technology companies to initiate the commercialization process. Total funds available for this grant round are \$175,000. Maximum awards of \$5,000 and \$20,000 will enable companies to accomplish one of four scopes of work. [LEARN MORE](#)

 **AZ Step Grant** - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets. [LEARN MORE](#)

 **Commercial/Industrial Solar Energy Tax Credit Program** - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. [LEARN MORE](#)

 **Healthy Forest** - The primary goal of the Healthy Forest Enterprise Incentives Program is to promote forest health in Arizona. The program achieves this by providing incentives for certified businesses that are primarily engaged in harvesting, processing or transporting of qualifying forest products. [LEARN MORE](#)

 **Job Training Program** offers job-specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round. [LEARN MORE](#)

 **Renewable Energy Tax Incentive Program** offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or

headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round. [LEARN MORE](#)

✚ **Research and Development Tax Credit** is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue. [LEARN MORE](#)

Quality Jobs Tax Credit Program - The primary goal of the Quality Jobs Tax Credit program is to encourage business investment and the creation of high-quality employment opportunities in the state. The program accomplishes this goal by providing tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. [LEARN MORE](#)

✚ **Bonds Administered by the Arizona Commerce Authority**

- **Private Activity Bonds (PAB)** - Tax exempt bond financing, for federal purposes, offers an alternative financing mechanism for certain projects. [LEARN MORE](#)
- **Qualified Energy Conservation Bonds (QECB)** - Tax credit bonds are available as an alternative financing mechanism for certain green projects. [LEARN MORE](#)

✚ **Federal Programs**

- **Small Business Innovation Research (SBIR) Program** - SBIR is a competitive program that encourages small businesses to explore their technological potential, as well as, providing incentive to profit from its commercialization. [LEARN MORE](#)
- **Small Business Technology Transfer (STTR) Program** - STTR is an important small business program that expands funding opportunities to meet the nation's scientific and technological challenges in the 21st century. [LEARN MORE](#)
- **Work Opportunity** - The Work Opportunity Tax Credit (WOTC) is a federal tax credit of up to \$9,000 that Congress provides to private-sector businesses for hiring individuals from nine target groups who have consistently faced significant barriers to employment. [LEARN MORE](#)

✚ **Pollution Control Tax Credit** - Provides a 10 percent income tax credit on the purchase price of real or personal property used to control or prevent pollution.


✚ **Renewable Energy Production Tax Credit** - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).


✚ **Sales Tax Exemption for Machinery and Equipment**

Exemptions are available for:

1. Machinery or equipment used directly in manufacturing, see [ARS 42-5159\(B\)\(1\)](#).
2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see [ARS 42-5159\(B\)\(4\)](#).
3. Machinery or equipment used in research and development, see [ARS 42-5159\(B\) \(14\)](#).

Questions can be directed to Christie Comanita (602-716-6791).

 **Solar Liquid Fuel Tax Credit** - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

 Database of State Incentives for Renewables and Efficiency (DSIRE)

- [Arizona Incentives/Policies](#)
- [Federal Incentives/Policies](#)
- [Solar Policy News](#) - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- [U.S. Dept. of Agriculture - Rural Development Grant Assistance](#)
- [Advanced Manufacturing Technology Consortia \(AMTech\) Program – Optional Pre-applications should be received no later than Friday, September 6, 2013. Full applications must be received no later than 11:59 p.m. Eastern Time, Monday, October 21, 2013. Applications received after the deadline will not be reviewed or considered.](#)
- [Bio-refinery Assistance Program – Response due October 31, 2013](#)
- [Energy, Power, and Adaptive Systems – Response due November 1, 2013](#)
- [Electronics, Photonics, and magnetic Devices - Response due November 1, 2013](#)
- [USDA Rural Community Development Utilities Programs - Response due November 12, 2013](#)
- [SunShot Initiative - Responses due November 20, 2014](#)
- [Solid Waste Management Grant - Response due December 31, 2013](#)
- [Energy Frontier Research Centers – Response due by January 9, 2014](#)
- [Environmental Sustainability - Response due February 20, 2014](#)
- [Energy for Sustainability - Response due February 20, 2014](#)
- [Environmental Health and Safety of Nanotechnology - Response due February 20, 2014](#)
- [Particulate and Multiphase Processes- Response due February 20, 2014](#)
- [Thermal Transport Processes - Response due February 20, 2014](#)
- [SunShot "Race to the Roof" Initiative - Registration due October 31, 2014](#)
- [Repowering Assistance Program – Ongoing](#)
- [Rural Business Enterprise Grants– Ongoing](#)
- [Rural Business Opportunity Grants– Ongoing](#)
- [Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines](#)

ENERGY-RELATED EVENTS

2013

[Fall 2013 - Solar and Sustainable Buildings Tours](#)

Living with the Sun - Arizona Style 2013 - Tours of Solar and Sustainable Buildings

Arizona Governor Jan Brewer has issued a proclamation designating October as Solar and Renewable Energy Month, recognizing the American Solar Energy Society's annual National Solar Tour of solar installations and energy sustainable buildings. As part of the National Tour, events in Arizona include a lecture and local tours on different weekends in different parts of the state. The tours provide an opportunity for the public to see solar and green building examples in person. Tours in Arizona can be experienced throughout the month at the following Arizona locations:

- October 26-27 - [Valley of the Sun - Phoenix Metro Tours](#)
- November 2 - [Pine, AZ](#)
- November 9-10 - [Tucson Innovative Home Tour](#)

[3rd Annual Envision Tucson Sustainable Festival](#)

October 20 Tucson, AZ

[Solar Power International](#)

October 21-24 Chicago, IL

[NGV Bridge Market Development & Infrastructure Summit 2013](#)

October 29-30 Boston, MA

[AWEA Wind Energy Fall Symposium](#)

November 6-8 Colorado Springs, CO

[Expo Industrial Convention](#)

Nov. 7-8 Hermosillo, Sonora Mexico

[Border Energy Forum XX](#)

November 6-9 San Antonio, TX

[Power Generation Week](#)

November 12-14 Orlando, FL

[GreenBuild International Conference and Expo](#)

November 20-22 Philadelphia, PA

[Ecobuild America 2013](#)

December 9-13 Washington, D.C.

[Green Building Lecture Series](#)

Granite Reef Senior Center Scottsdale, AZ

2014

[Energy, Utility & Environment Conference](#)

February 3-5, 2014 Phoenix, AZ

[2014 Energy Outlook Conference](#)

February 4-7, 2014 Washington, DC



[Green Biz Forum 2014](#)

February 18-20, 2014 Phoenix, AZ



[Green Building Lecture Series](#)

Granite Reef Senior Center Scottsdale, AZ